

In the claims:

1. In a radio communication system in which a mobile node selectably communicates data by way of a radio link with a network part, an improvement of apparatus for facilitating initiation of allocation of channel capacity upon the radio link, said apparatus comprising:

a channel allocation request generator selectably operable when data is available to be communicated by the mobile node to the network part, said channel allocation request generator for selectably generating a channel allocation request to communicate the data from the mobile node to the network part; and

a selector operable at least absent of detection at the mobile node of a response to an initial channel allocation request generated by said channel allocation request generator and determination that communication conditions on the radio link are inadequate, said selector for selecting when to cause said channel allocation request generator to generate at least a first subsequent channel allocation request.

2. The apparatus of claim 1 further comprising a counter coupled to receive indications when said channel allocation request generator generates a channel allocation request, said counter for maintaining a count value representative of a cumulative count of channel allocation requests generated by said channel allocation request generator to request the allocation of the channel capacity to communicate the data.

3. The apparatus of claim 2 wherein said selector is further coupled to said counter to receive the count value maintained thereat, selection made by said selector to cause

22 said channel allocation request generator to generate the subsequent channel allocation
23 request selectably responsive to the count value maintained at said counter.

24 4. The apparatus of claim 3 wherein said selector causes said channel allocation
25 request generator to generate the subsequent channel allocation request signal when the count
26 value maintained by said counter is less than a selected threshold.

27 5. The apparatus of claim 4 wherein said selector causes said channel allocation
28 request generator to generate subsequent channel allocation request signals at selected
29 intervals absent detection at the mobile node of the initial channel allocation request and any
30 prior, subsequent channel allocation requests while the count value remains less than the
31 selected threshold.

32 6. The apparatus of claim 3 further comprising a radio link indicia measurer
33 coupled to receive indicia associated with the radio link, said radio link indicia measurer for
34 measuring a value associated with the radio link.

35 7. The apparatus of claim 3 further comprising a timer coupled to receive
36 indications of when said channel allocation request generator generates a channel allocation
37 request, said timer for timing a selected time period subsequent to the generation of the
38 channel allocation request.

39 8. The apparatus of claim 1 further comprising a radio link indicia measurer
40 coupled to receive indicia associated with the radio link, said radio link indicia measurer for
41 measuring a value associated with the radio link, and wherein said selector is further coupled

to said radio link indicia measurer to receive the value associated with the radio link measured by said radio link indicia measurer, selection made by said selector to cause said channel allocation request generator to generate the subsequent channel allocation request selectably responsive too the value associated with the radio link.

9. The apparatus of claim 8 wherein the network part generates a broadcast signal upon a broadcast channel defined upon the radio link and wherein the indicia associated with the radio link to which said radio link indicia measurer is coupled to receive comprises indicia associated with detection at the mobile node of the broadcast signal upon the broadcast channel.

10. The apparatus of claim 9 wherein the value measured by said radio link indicia measurer comprises a signal-strength value representative of at least relative signal strength of the broadcast signal broadcast upon the broadcast channel, detected at the mobile node.

11. The apparatus of claim 10 wherein said selector selects to cause said channel allocation request generator to generate the subsequent channel allocation request signal when the value associated with the radio link, measured by said radio link indicia measurer, is beyond a selected threshold.

12. The apparatus of claim 1 further comprising a timer coupled to receive indications of when said channel allocation request generator generates a channel allocation request, said timer for timing a selected time period subsequent to the generation of the channel allocation request, and wherein said selector is further coupled to said timer to receive indications at least of time-out of the selected time period by said timer, selection made by

said selector to cause said channel allocation request generator to generate the subsequent channel allocation request selectably responsive to time-out of the selected time period by said timer.

13. The apparatus of claim 1 wherein the radio communication system defines a random access channel and wherein the channel allocation requests generated by said channel allocation request generator are generated upon the random access channel.

14. The apparatus of claim 13 wherein the radio communication system comprises a GSM (Global System for Mobile Communications) system that provides for GPRS (General Packet Radio Service) and wherein the channel allocation requests selectably generated by said channel allocation request generator are for allocation of channel capacity upon which to send GPRS-formatted data.

15. In a method of communicating in a radio communication system in which a mobile node selectably communicates data by way of a radio link with a network part, an improvement of a state transition controller method for controlling state transitions between mobile-node states pursuant to initiation of allocation of channel capacity upon the radio link, said method comprising:

placing the mobile node in a first operational state in which the mobile node is permitted to request the allocation of the channel capacity upon the radio link;
monitoring communication indicia on the radio link;

84 placing the mobile node in a second operational state in which the mobile node
85 remains permitted to request the allocation of the channel capacity upon the radio link
86 responsive to indications that the communication indicia monitored during said operation of
87 monitoring is beneath a first threshold level; and

88 placing the mobile node in a third operational state in which the mobile node is
89 prohibited from requesting the allocation of the channel capacity if the mobile node is unable,
90 while in the second operational state, to detect a response to the channel allocation request.

91 16. The method of claim 15 comprising the additional operations of further
92 monitoring the communication indicia while the mobile node is in the second operational
93 mode, and returning the mobile node to the first operational state from the second operational
94 state responsive to indications that the communication indicia monitored during said operation
95 of further monitoring is above a second threshold level.

96 17. The method of claim 15 wherein said operation of placing the mobile node in
97 the third operational state further comprises the operation of maintaining the mobile node in
98 the third operational state for a selected time period.

99 18. The method of claim 15 wherein said method comprises the additional
100 operations of further monitoring the communication indicia while the mobile node is in the
101 third operational mode, and returning the mobile node to the first operational state responsive
102 to indications that the communication indicia monitored during said operation of further
103 monitoring is above a second threshold.

104 19. The method of claim 15 wherein said method comprises the additional
105 operations of further monitoring the communication indicia while the mobile node is in the
106 third operational mode, and wherein said operation of placing the mobile node in the third
107 operational state further comprises the operation of maintaining the mobile node in the third
108 operational state for a selected time period unless the communication indicia monitored
109 during said operation of further monitoring is above a second threshold, and if the
110 communication indicia monitored during said operation of further monitoring is above a
111 second threshold, returning the mobile node to the first operational state.

112 20. A method for facilitating initiation of allocation of channel capacity upon a
113 radio link in a radio communication system in which a mobile node selectably communicates
114 data by way of the radio link with a network part, said method comprising:
115 selectably generating an initial channel allocation request to communicate the data
116 from the mobile node to the network part when data is available to be communicated by the
117 mobile node to the network part; and
118 selecting when to cause generation of at least a first subsequent channel allocation
119 request absent detection at the mobile node of a response to the initial channel allocation
120 request and upon determination that communication conditions on the radio link are
121 inadequate.